# ELECTRONIC DEVICE WITH KEYBOARD REMOVABLY MOUNTED OVER LID PROVIDING ACCESS TO CIRCUIT BOARD WITH DETACHABLY HELD ELECTRONIC COMPONENT AND WITH TWO CORD STORING PORTIONS

This is a divisional of application Ser. No. 08/166,289, filed Dec. 13, 1993, now abandoned, which is a continuation of application Ser. No. 07/964,039, filed Oct. 20, 1992, now abandoned.

## BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to electronic devices and, more particularly, to an electronic device which has a keyboard removably mounted over a lid to provide access to a circuit board with a detachably held electronic component.

2. Description of the Related Art

As a portable personal computer, a computer having a keyboard which can be used while being detached from the main body to improve handiness is known.

As a personal computer of this type, a computer having the following arrangement is known. In this computer, a front portion of the upper surface of the box-like flat main body is set to be lower in level than the remaining portion so as to form a stepped portion, and a keyboard is detachably mounted in this stepped portion. When the display is closed while the keyboard is mounted in the stepped portion, the keyboard is clamped between the display and the stepped portion.

According to the computer having the above-described arrangement, when the display is closed while the keyboard is mounted in the stepped portion of the main body, and these components are to be carried as one unit, the keyboard may slide down outward from the stepped portion of the main body. For this reason, a computer of this type uses a latch mechanism for locking the display in a closed state, thereby holding the keyboard in the stepped portion.

According to such a conventional holding structure, the latch mechanism of the display has a long hook extending to an upper surface portion of the stepped portion of the main body, and an engaging/receiving portion with/from which the hook can be freely engaged/disengaged is formed at the upper surface portion, of the main body, which corresponds to the hook. In addition, a through hole is formed in the keyboard to allow the hook to slidably pass therethrough. When the display is closed while the keyboard is placed in the stepped portion, the distal end portion of the hook passes through the through hole of the keyboard to be engaged with the engaging/receiving portion. With this operation, the movement of the keyboard is restrained by the hook together with the lock of the display.

Although no problems are posed in such a holding structure while the keyboard is mounted in the stepped portion, the following problem may be caused when the display is closed while the keyboard is separated from the main body. The closed display is locked upon engagement between the hook and engaging/receiving portion. However, the corner portion or shoulder portion of the stepped portion is brought into contact with an intermediate portion of the display in the forward-/backward direction because the keyboard is not mounted in the stepped portion. For this reason, if the keyboard is pivoted to close it, a large stress acts on the display such that the display is bent into an L shape while the intermediate portion, located in the forward-/backward direction, which is in contact with the corner portion of the stepped portion serves as a fulcrum. This stress may damage the display. Especially in recent years, since the display has been reduced in profile and rigidity with a decrease in weight, the possibility of damaging the display is high.



## SUMMARY OF THE INVENTION

The present invention has been made in consideration of the above situation and has as its object to provide an electronic device which can reliably hold a keyboard in a stepped portion and prevents damage to a display.

In order to achieve the above object, according to the present invention, there is provided an electronic device comprising: a rectangular main body including an upper surface and a stepped portion formed in a front portion of the upper surface, the stepped portion having a bottom surface lower in level than the upper surface and substantially parallel to the upper surface; a display arranged on the main body and rotatable between a closed position where the display covers the upper surface and the stepped portion, and a opened position where the upper surface and the stepped portion are exposed; a keyboard detachably placed in the stepped portion so that when said display is rotated to the closed position, the keyboard is clamped between the display and the bottom surface of the stepped portion; holding means for holding the keyboard in the stepped portion; and lock means for locking the display in the closed position. The holding means includes a through hole formed in the keyboard, and a protruding portion protruding from the bottom surface of the stepped portion so as to extend through the through hole and restrain the movement of the keyboard when the keyboard is mounted in the stepped portion. The protruding portion has an abutment portion for abutting against the display rotated to the closed position. The lock means includes an engagement portion provided at the protruding portion, and a hook provided at the display, for engaging the engagement portion when the display is rotated to the closed position.

According to the electronic device having the above-described arrangement, when the keyboard is mounted in the main body to be assembled into one portable unit with the display closed, the display is closed after the keyboard is placed in the stepped portion formed in the front portion of the main body. With this operation, the protruding portion protruding from the bottom surface of the stepped portion is inserted in the through hole in the keyboard and restrains the movement of the keyboard. At the same time, the hook of the display is engaged with the engagement portion of the protruding portion to lock the display, while the keyboard is clamped between the bottom surface of the stepped portion and-the display to be restrained.

When the display of the main body is to be closed without mounting the keyboard in the main body to use an external display unit, the display is closed while the keyboard is detached from the stepped portion. With this operation, the distal end portion of the hook of the display is engaged with the engagement portion of the protruding portion. At this time, the abutment portion of the protruding portion is brought into contact with the front portion of the display in the closed state and supports the front portion of the display, thereby reduc-